

**More examples**

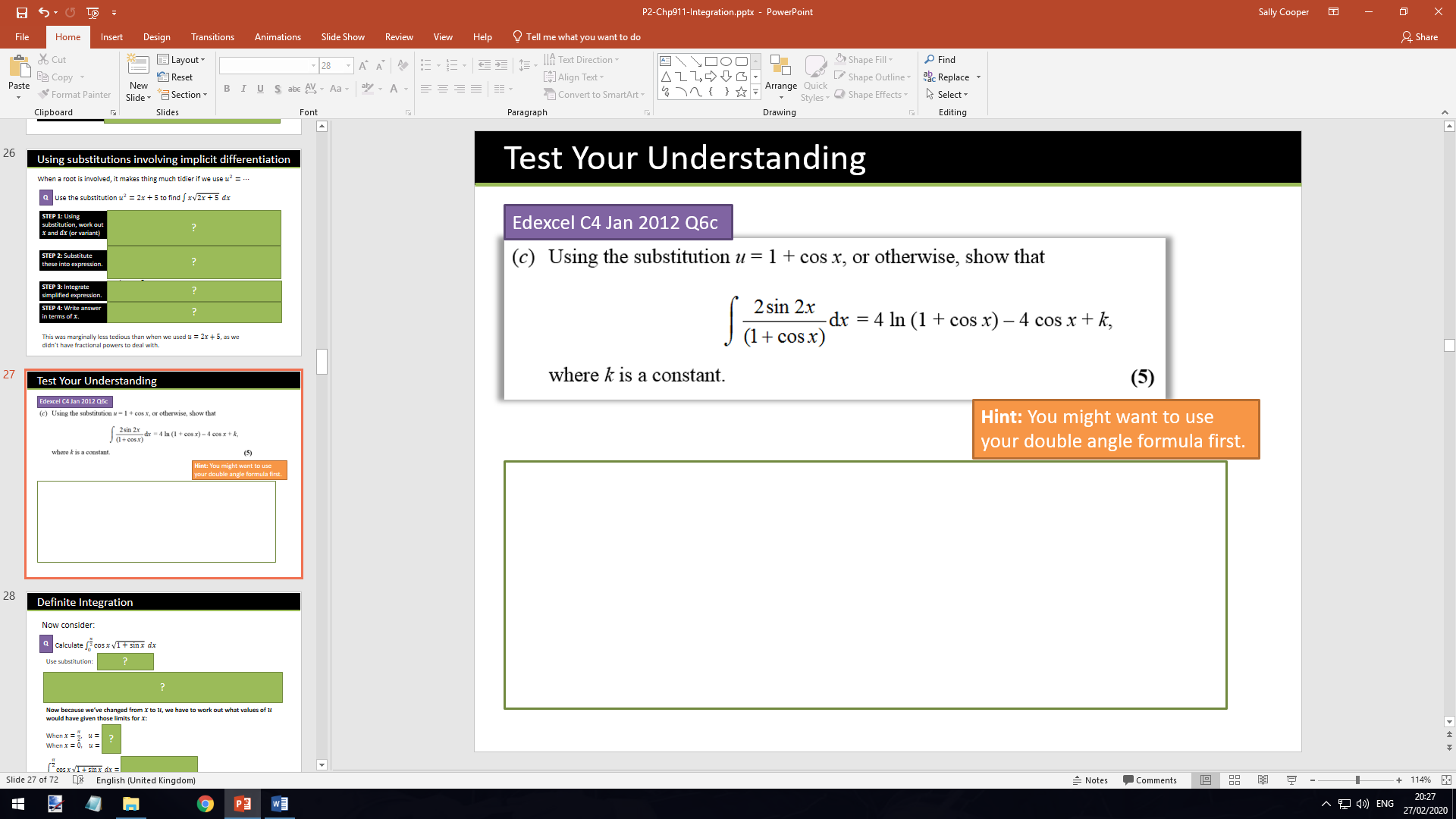
Use the substitution to find

**Example 4**

Use the substitution to find

**Edexcel will usually give you the substitution in the exam question.**

**However, if you are not provided with a substitution, a ‘rule of thumb’ is to replace expressions inside roots, powers or the denominator of a fraction by the variable u.**

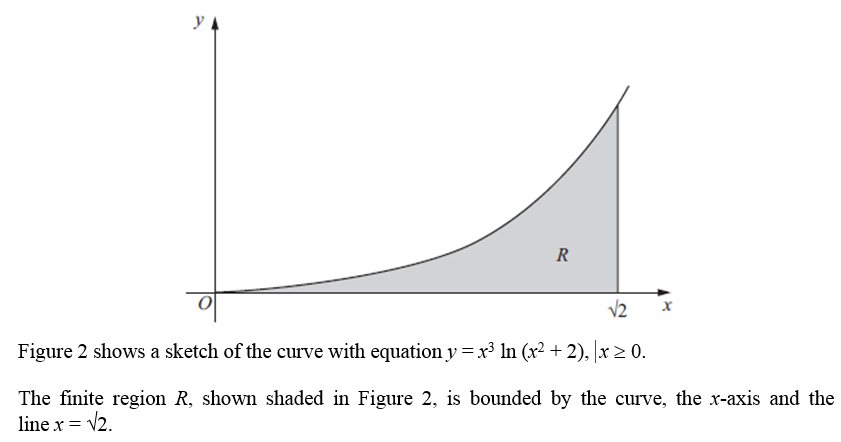
**INTEGRATION BY SUBSTITUTION AND DEFINITE INTEGRALS**

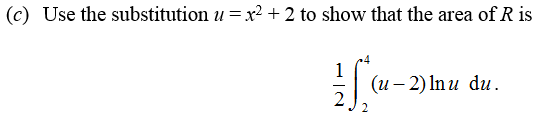
When you use integration by substitution to evaluate a definite integral, you do not need to rewrite the expression in terms of . However, if you use the expression in terms of , you ***must*** replace the limits with limits.

Alternatively, you could convert the integral back to a function of and use the original limits but this is usually messier!

**Example 5**

Calculate

**Example 6**

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